Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-22 (cancelled)

Claim 23 (new): A method for producing a synthetic protein comprising an amino acid sequence that is at least 80% identical to at least 46 contiguous amino acids of a naturally occurring antigenic protein of a pathogen or tumor, comprising the steps of:

a) chemically synthesizing two or more fragments each consisting of 2-80 contiguous amino acids of the amino acid sequence, wherein the two or more fragments in the amino acid sequence are neighbouring and non-overlapping;

b) chemically ligating the C-terminus of a fragment to the N-terminus of a neighbouring fragment to produce the synthetic protein or a part thereof; and

c) optionally, repeating step b) to sequentially ligate a further neighbouring fragment obtained from step b) or step c) to produce the synthetic protein.

Claim 24 (new): The method according to claim 23, wherein the neighbouring non-overlapping fragments comprise a N-terminal cysteine or a glycine residue.

Claim 25 (new): The method according to claim 23, wherein the naturally occurring protein is an HPV protein.

Claim 26 (new): The method according to claim 25, wherein the HPV protein is an E2, E6 or E7 protein from HPV16, HPV18, HPV31, HPV33 or HPV45.

Claim 27 (new): The method according to claim 23, wherein the synthetic protein obtained from step b) or c) is chemically conjugated to an adjuvant.

Claim 28 (new): The method according to claim 27, wherein the adjuvant is chemically synthesized.

Claim 29 (new): The method according to claim 27, wherein the adjuvant is capable of activating dendritic cells.

Claim 30 (new): The method according to claim 29, wherein the adjuvant is selected from the group consisting of polyIC, CpG DNA, imiquimod, Pam3Cys, LPS and combinations thereof.

Claim 31 (new): The method according to claim 23, further comprising the step of formulating the synthetic protein into a pharmaceutical composition by mixing the protein with a pharmaceutically acceptable carrier.

Claim 32 (new): A composition comprising a synthetic protein, the protein comprising an amino acid sequence that is at least 80% identical to at least 46 contiguous amino acids of a naturally occurring antigenic protein of a pathogen or tumor, wherein the composition is free of a nucleic acid encoding the amino acid sequence.

Claim 33 (new): The composition according to claim 32, wherein the protein comprises an amino acid sequence that is at least 80% identical to at least 46 contiguous amino acids of one of SEQ ID NOS. 1 to 6, wherein the composition is free of DNA encoding the amino acid sequences of SEQ ID NOS. 1 to 6.

Claim 34 (new): The composition according to claim 33, wherein the composition further comprises an adjuvant.

Claim 35 (new): The composition according to claim 34, wherein the adjuvant is capable of activating dendritic cells.

Claim 36 (new): The composition according to claim 35, wherein the adjuvant is a TLR-activating adjuvant selected from the group consisting of polyIC, CpG DNA, imiquimod, Pam3Cys, LPS and combinations thereof.

Claim 37 (new): The composition according to claim 34, wherein the adjuvant is covalently conjugated to the protein.

Claim 38 (new): The composition according to claim 31, wherein the composition further comprises a pharmaceutically acceptable carrier.

Claim 39 (new): The composition according to claim 32, wherein the composition further comprises anti-CD40 antibody.

Claim 40 (new): The composition according to claim 39, for use as a vaccine.

Claim 41 (new): A method for the treatment or prevention of an HPV-associated disease, comprising administering to a subject a synthetic protein produced as defined in claim 23, or a composition as defined in claim 32, in a therapeutically effective amount.

Claim 42 (new): The method according to claim 41, wherein the HPV-associated disease is an HPV-induced cancer.

Claim 43 (new): A method for producing a medicament for the prevention or treatment of an HPV-associated disease, comprising manufacturing a synthetic protein produced as defined in claim 23, or a composition as defined in claim 32.

Claim 44 (new): The method according to claim 43, wherein the HPV-associated disease is an HPV-induced cancer.